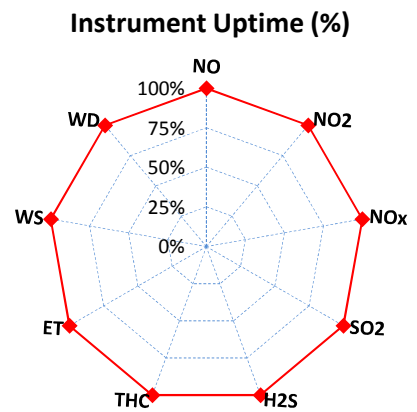
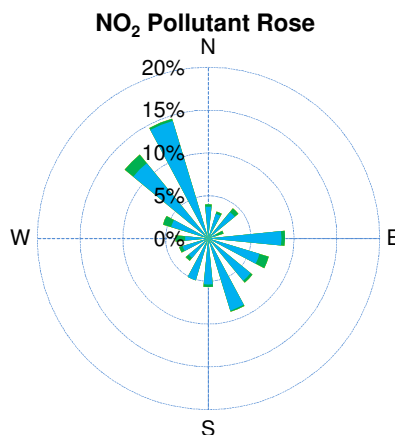
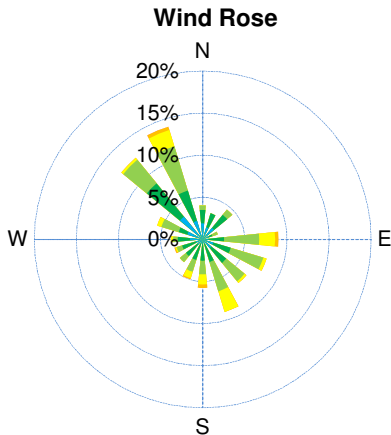
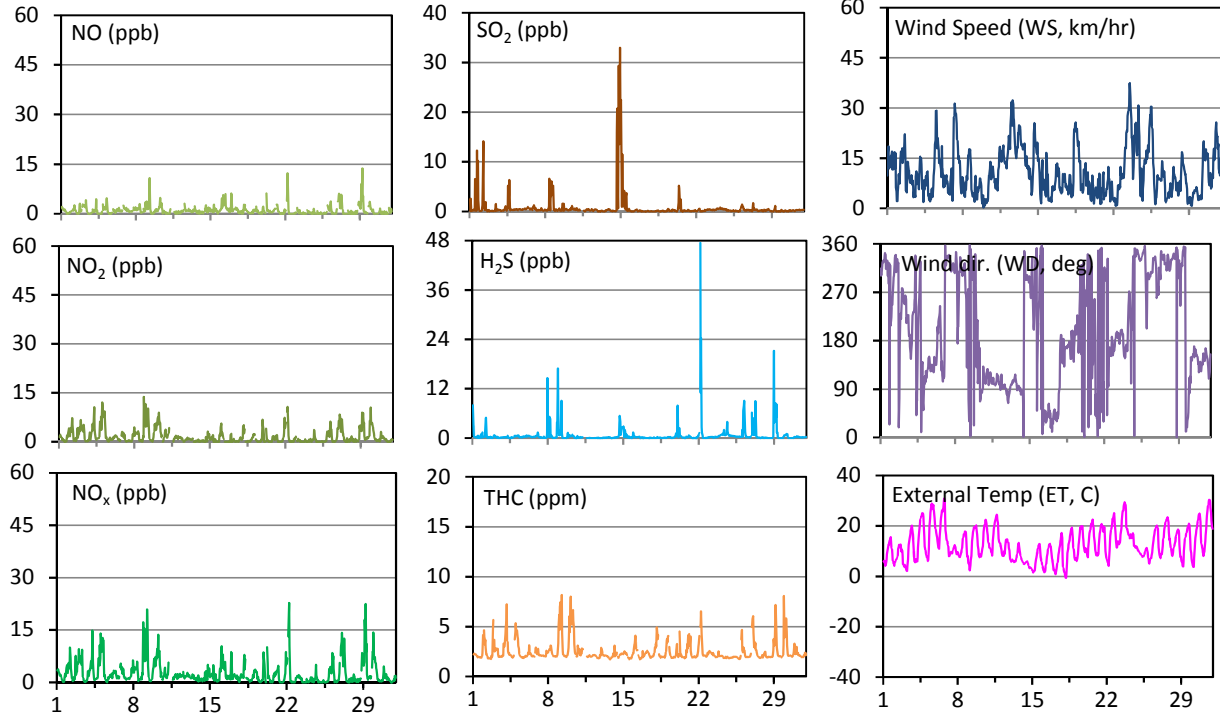


# Husky Energy East Station - May 2017 Summary Report

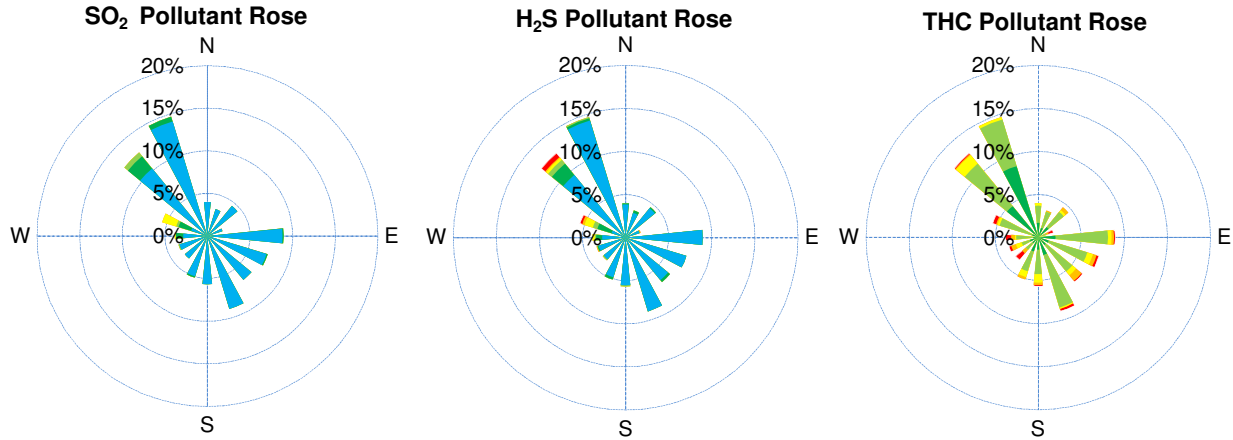
Pollutants		Month Records		24-Hour Records				1-Hour Records			
				Maximum		SAAQS Standards	Exceed Days	Maximum		SAAQS Standards	Exceed Hours
				Conc.	Time			Conc.	Time		
Name	Conc. Unit	Avg. Conc.	Uptime								
NO	ppb	1.0	100.0%	2.6	May-29	-	-	13.7	May-29 06:00	-	-
NO <sub>2</sub>	ppb	1.6	100.0%	3.9	May-9	106	0	13.8	May-08 22:00	159	0
NO <sub>x</sub>	ppb	2.6	100.0%	6.4	May-29	-	-	22.8	May-22 06:00	-	-
SO <sub>2</sub>	ppb	0.8	100.0%	6.9	May-14	48	0	33.0	May-14 23:00	172	0
H <sub>2</sub> S	ppb	0.7	100.0%	3.9	May-22	3.6	1	47.4	May-22 04:00	11.0	5
THC	ppm	2.5	100.0%	4.0	May-10	-	-	8.2	May-09 07:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



Parameters	Unit	Color Code for Wind Spd & Pollutant Conc. Class					
Wind Speed	km/hr	1 ≤ WS < 5	5 ≤ WS < 10	10 ≤ WS < 20	20 ≤ WS < 30	30 ≤ WS < 40	WS ≥ 40
SO <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 11	C ≥ 11
THC	ppm	0 ≤ C < 1	1 ≤ C < 2	2 ≤ C < 3	3 ≤ C < 4	4 ≤ C < 5	C ≥ 5

# Husky Energy East Station - May 2017 Summary Report



## Monthly Update

\*Air monitoring data has been slope, intercept, and baseline corrected. Data may change after validation process.

\*All compliance parameters were within the Saskatchewan Ambient Air Quality Standards, with the exception of five 1-hour H<sub>2</sub>S exceedance events, and one 24-hour H<sub>2</sub>S exceedance event. Refer to the exceedance summary table for details.

\*All compliance parameters are above 90% operational. There are no operational issues to report.

### Exceedance Summary

1-hour Exceedance Information			Summary of Other Parameters During Exceedance							
Pollutant	Conc. ppb	Exceedance Time mmm-dd hh:mm	WS km/hr	WD deg	ET C	SO <sub>2</sub> ppb	H <sub>2</sub> S ppb	NO <sub>2</sub> ppb	THC ppm	
H2S	47.4	May-22 04:00	2.6	294	5.4	0.3	47.4	9.3	5.0	
H2S	24.3	May-22 06:00	1.1	313	6.4	0.5	24.3	10.7	6.5	
H2S	21.2	May-29 00:00	2.2	308	7.8	0.0	21.2	4.2	3.7	
H2S	16.9	May-08 23:00	3.5	308	7.9	0.2	16.9	5.6	3.3	
H2S	14.6	May-08 00:00	9.3	305	9.5	0.4	14.6	4.4	2.4	

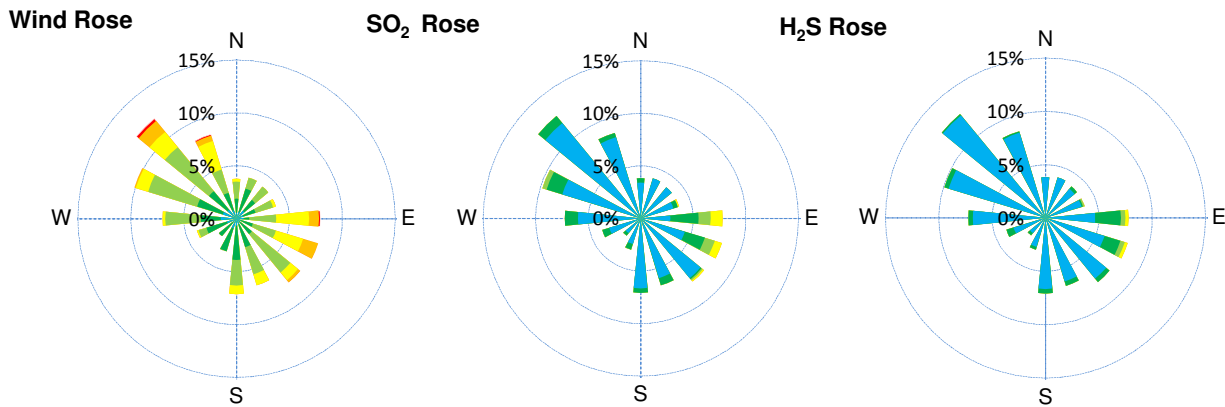
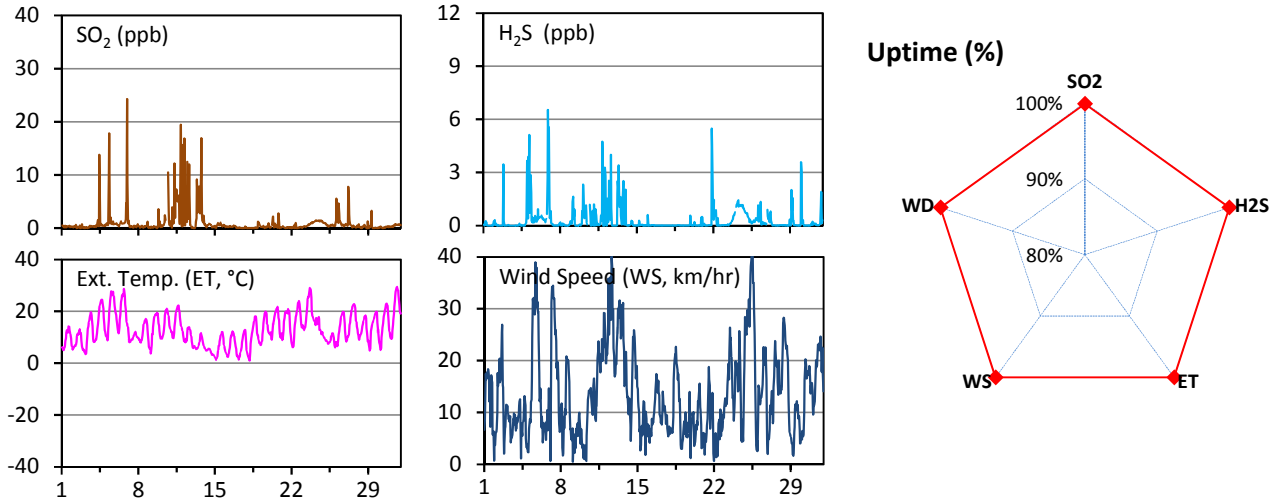
  

24-hour Exceedance Information			WS	WD	ET	SO <sub>2</sub>	H <sub>2</sub> S	NO <sub>2</sub>	THC
Pollutant	Conc. ppb	Exceedance Time mmm-dd hh:mm	km/hr	deg	C	ppb	ppb	ppb	ppm
H2S	3.9	22-May	6.1	195	15.1	0.2	3.9	2.3	2.9

# Husky Energy West Station - May 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Uptime	Maximum		AAAQO / SAAQS	Exceed Days	Maximum		AAAQO / SAAQS	Exceed Hours
				Conc.	Time			Conc.	Time		
SO <sub>2</sub>	ppb	0.5	99.9%	4.7	May-12	48 / 48	0 / 0	24.3	May-07 00:00	172 / 172	0 / 0
H <sub>2</sub> S	ppb	0.3	100.0%	1.2	May-6	3 / 3.6	0 / 0	7.0	May-06 22:00	10 / 11.0	0 / 0

AAAQO: Alberta Ambient Air Quality Objectives; SAAQS: Saskatchewan Ambient Air Quality Standards.



Parameters	Unit	Color Code for Wind Spd & Pollutant Conc. Class					
Wind Speed	km/hr	1 ≤ WS < 5	5 ≤ WS < 10	10 ≤ WS < 20	20 ≤ WS < 30	30 ≤ WS < 40	WS ≥ 40
SO <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 11	C ≥ 11

## Monthly Update

\*Air monitoring data has been slope, intercept, and baseline corrected. Data may change after validation process.

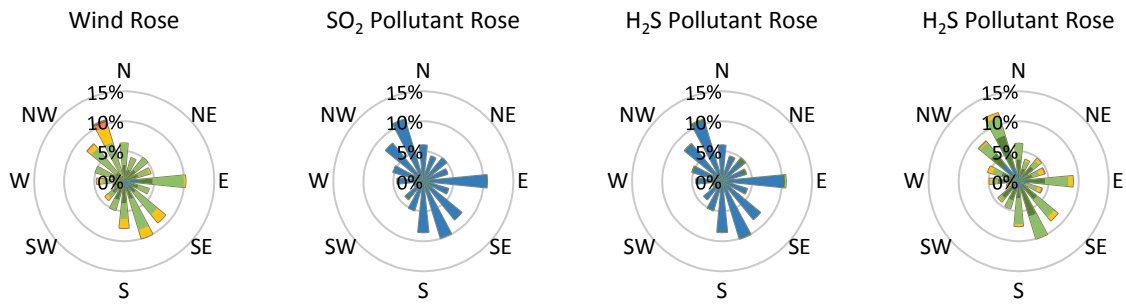
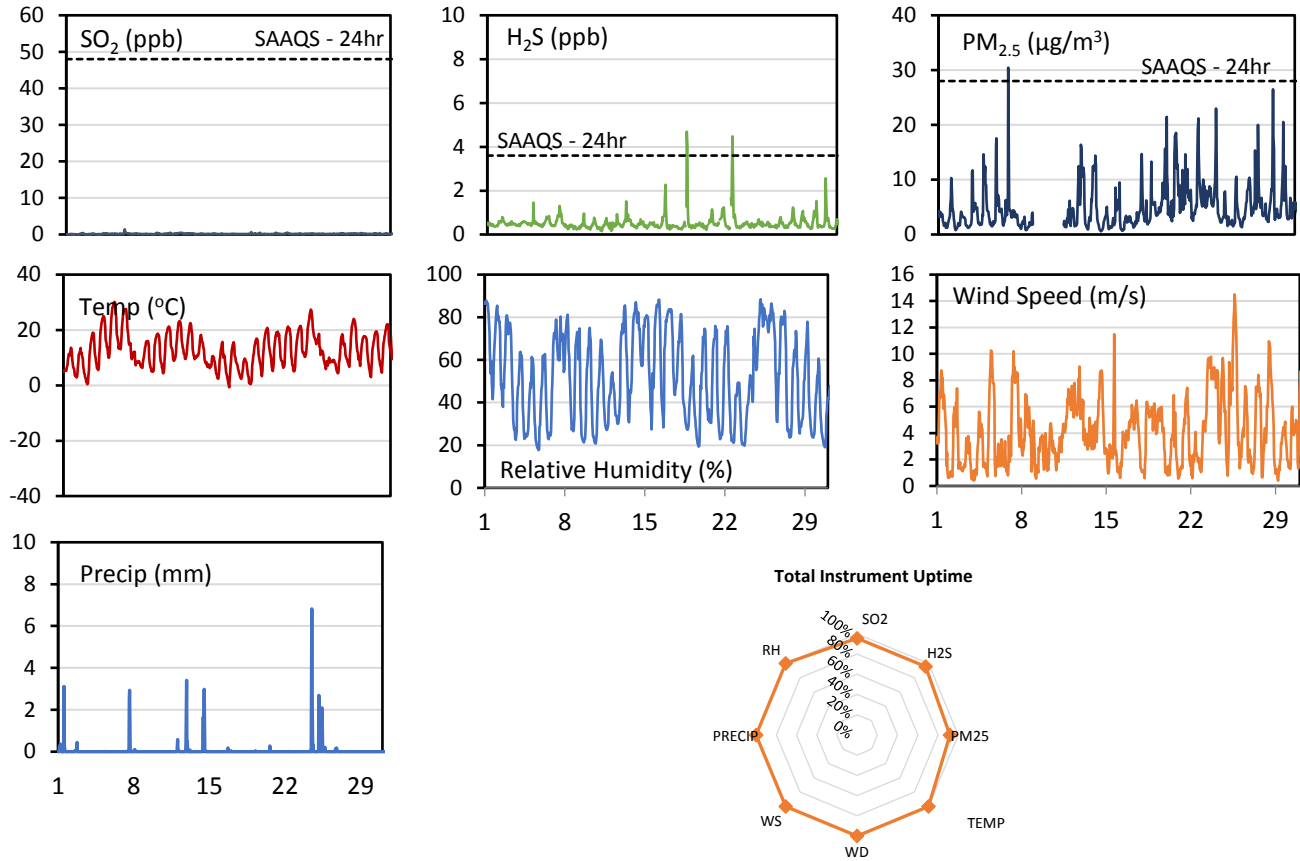
\*All compliance parameters were within the Alberta Ambient Air Quality Objectives and the Saskatchewan Ambient Air Quality Standards

\*All compliance parameters are above 90% operational. One hour of SO<sub>2</sub> data is flagged as "analyzer failure" due to abnormal data readings.

## WYAMZ Kindersley Station - May 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
SO <sub>2</sub>	ppb	0.2	96%	0.4	May-06	48	0	1.4	May-06 10:00	172	0
H <sub>2</sub> S	ppb	0.5	96%	0.9	May-22	3.6	0	4.7	May-18 03:00	11	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	4.8	92%	8.9	May-21	28	0	30.4	May-06 21:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class					
Wind Speed	m/s	0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6
SO <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 10.8	C ≥ 10.8
PM <sub>2.5</sub>	µg/m <sup>3</sup>	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30

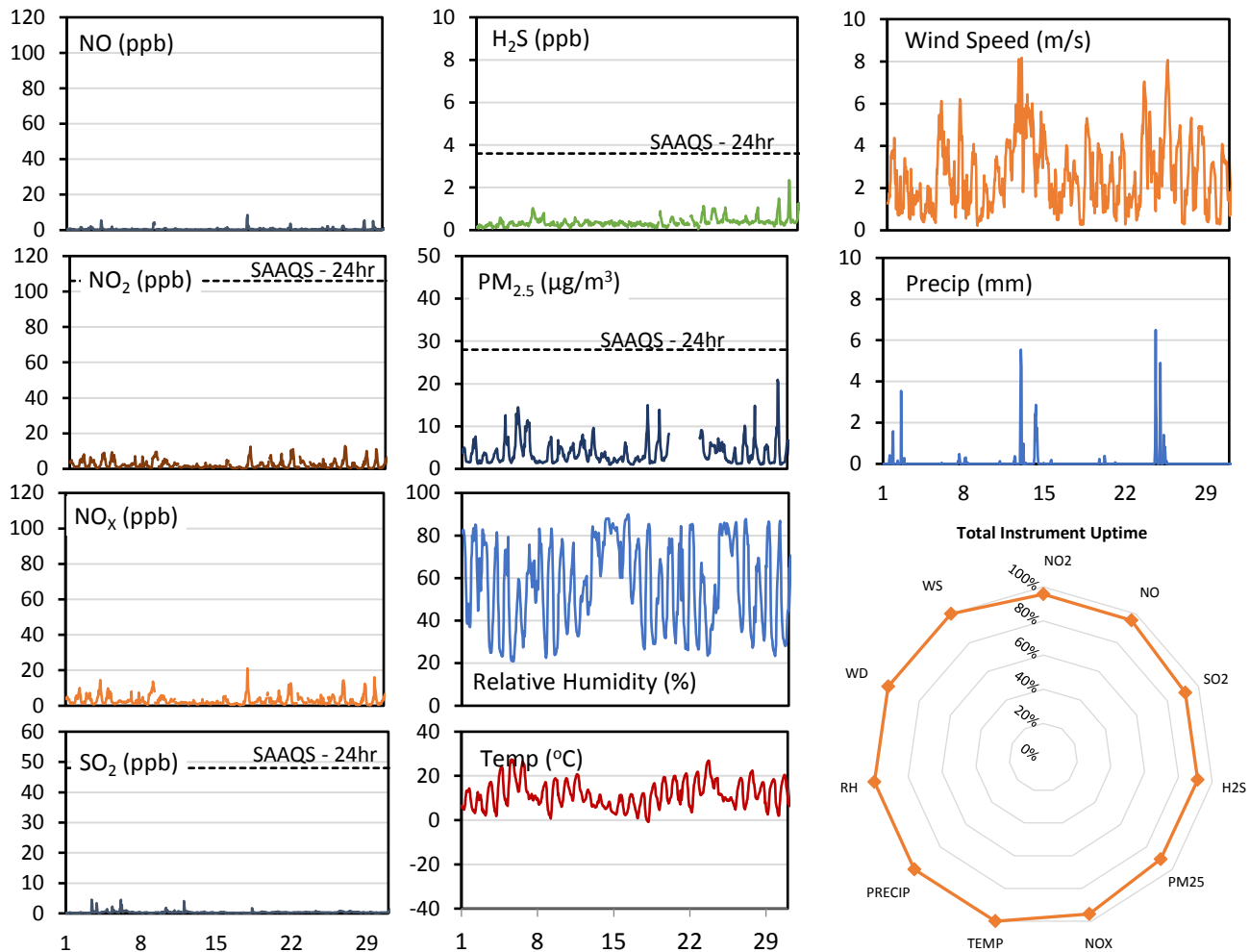
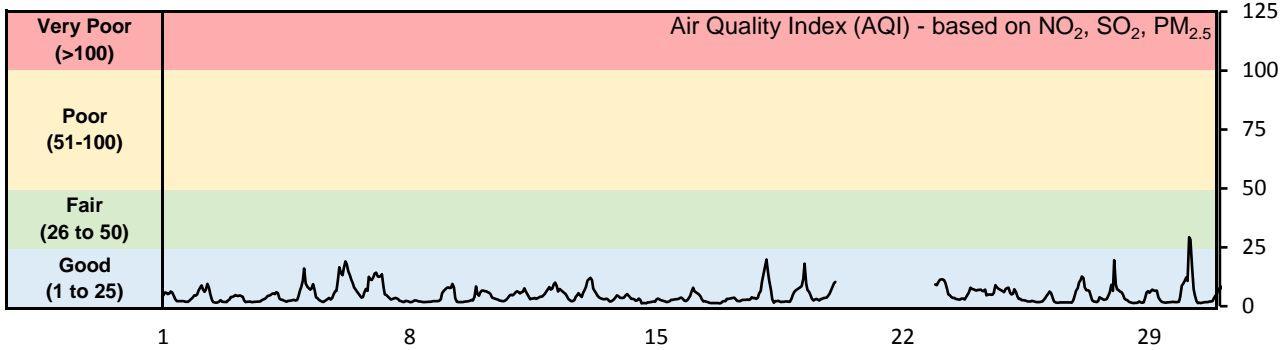
### Monthly Update

- Achieved 100% of scheduled uptime for all parameters except PM<sub>2.5</sub> (91.8%)
- Downtime of 4% results from routine daily Internal Zeroes and Spans

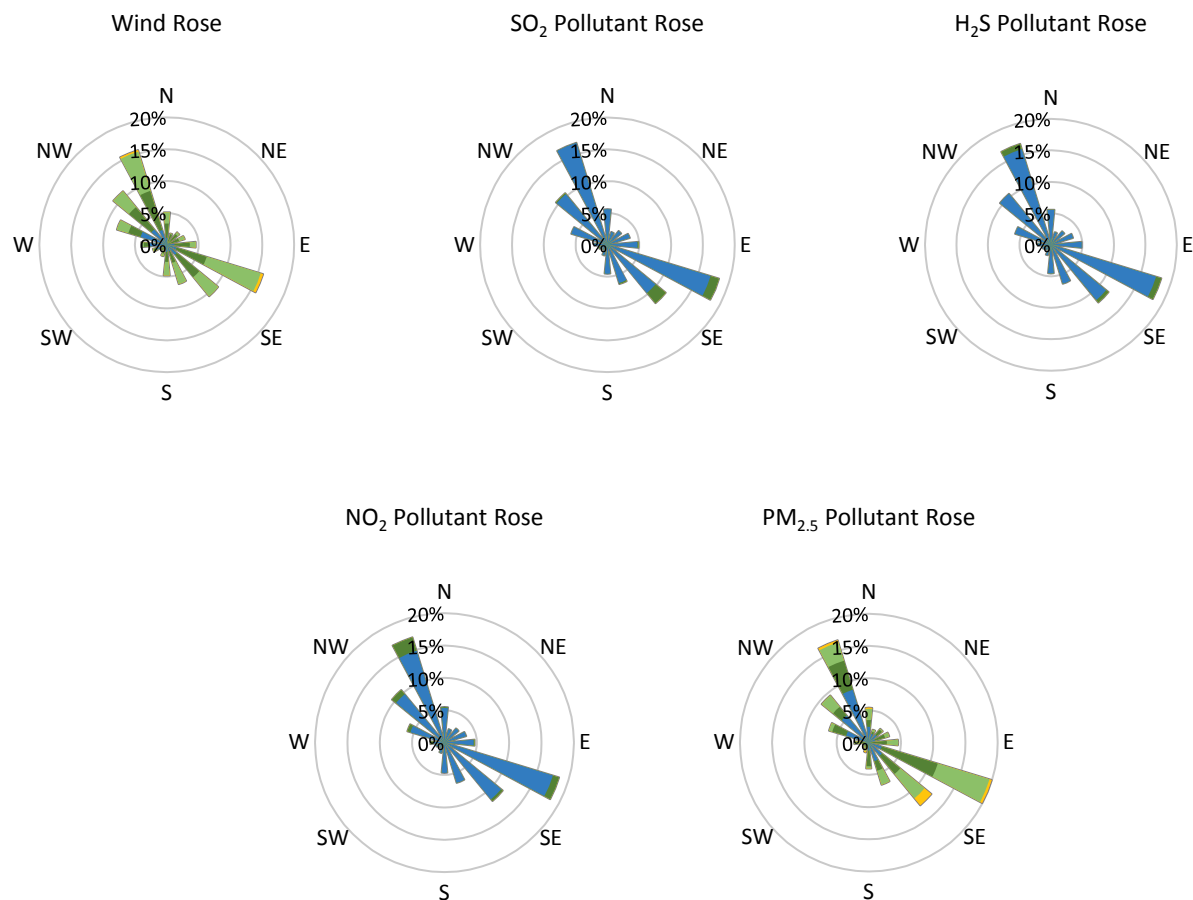
## WYAMZ Maidstone Station - May 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.5	96%	1.2	May-18	-	-	8.5	May-18 04:00	-	-
NO <sub>2</sub>	ppb	2.4	96%	4.4	May-09	106	0	12.9	May-27 04:00	159	0
NO <sub>x</sub>	ppb	2.9	96%	5.3	May-09	-	-	21.1	May-18 04:00	-	-
SO <sub>2</sub>	ppb	0.4	91%	1.0	May-06	48	0	4.5	May-03 10:00	172	0
H <sub>2</sub> S	ppb	0.4	91%	0.7	May-31	3.6	0	2.4	May-30 05:00	11	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	3.7	91%	8.3	May-06	28	0	20.9	May-30 03:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



## WYAMZ Maidstone Station - May 2017 Summary Report



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class					
		0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6
SO <sub>2</sub>	ppb	0 ≤ C < 1	1 ≤ C < 5	5 ≤ C < 10	10 ≤ C < 57	57 ≤ C < 172	C ≥ 172
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212
H <sub>2</sub> S	ppb	0 ≤ C < 1	1 ≤ C < 3.6	3.6 ≤ C < 5	5 ≤ C < 8	8 ≤ C < 10.8	C ≥ 10.8
PM <sub>2.5</sub>	µg/m <sup>3</sup>	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30

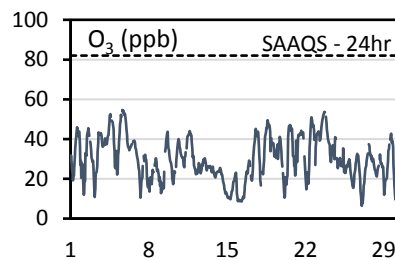
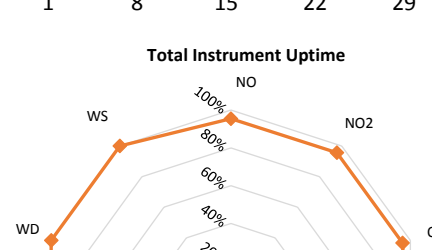
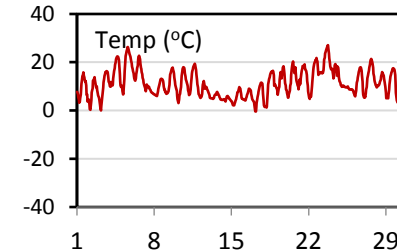
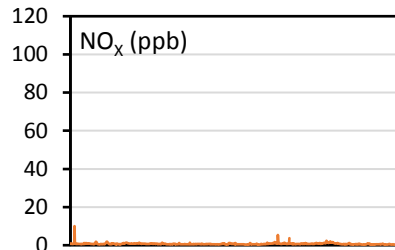
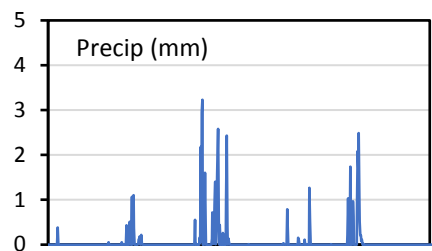
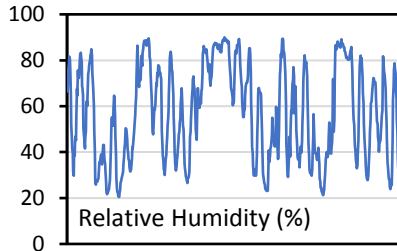
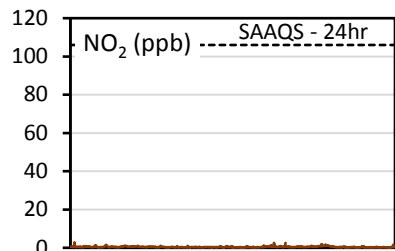
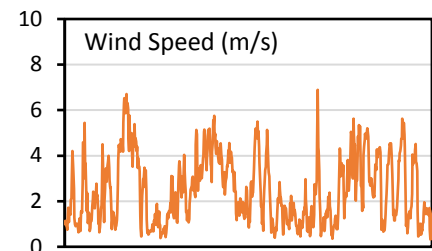
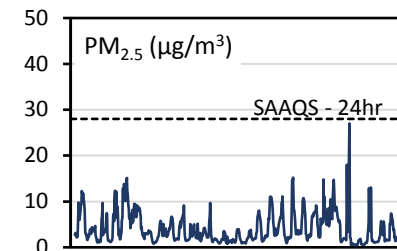
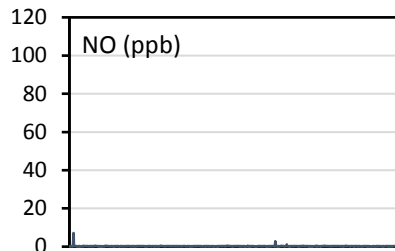
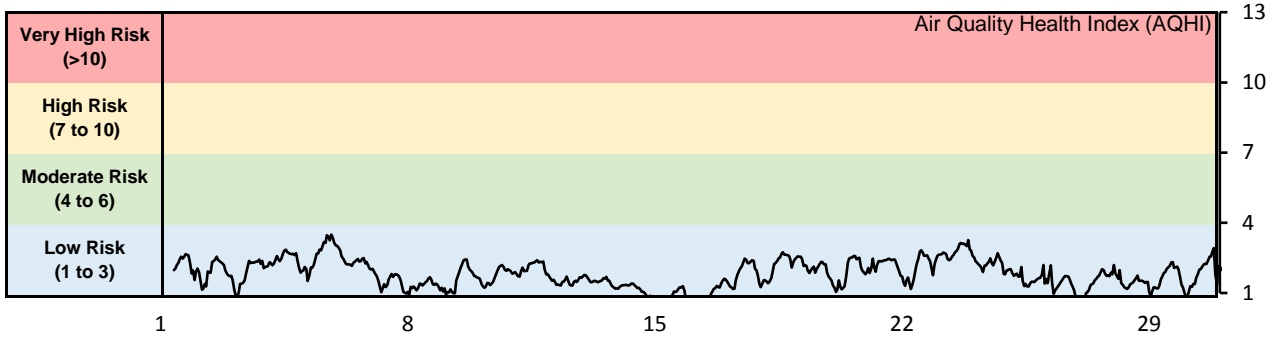
### Monthly Update

- Achieved >99% of scheduled uptime for all parameters except PM<sub>2.5</sub> (91%)
- NO/NO<sub>2</sub>/NO<sub>x</sub> downtime of 4% results from routine daily Internal Zeroes and Spans
- SO<sub>2</sub>/H<sub>2</sub>S downtime of 8% results from routine daily Internal Zeroes and Spans

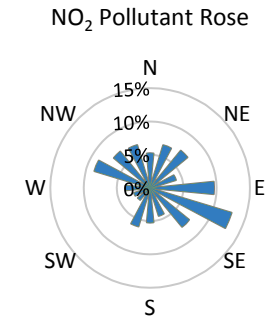
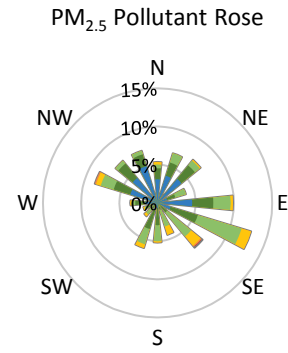
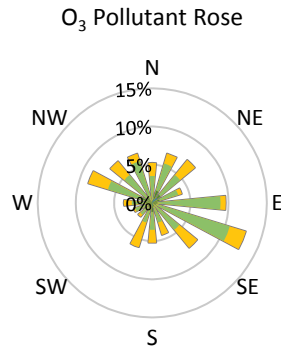
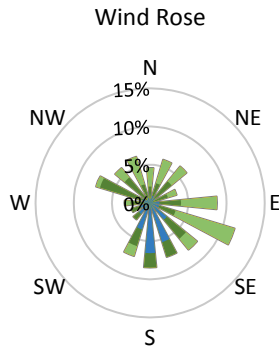
## WYAMZ Meadow Lake Station - May 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.2	95%	0.5	May-01	-	-	7.1	May-01 09:00	-	-
NO <sub>2</sub>	ppb	0.5	96%	1.1	May-24	106	0	2.9	May-01 09:00	159	0
NO <sub>x</sub>	ppb	0.7	95%	1.4	May-24	-	-	10.0	May-01 09:00	-	-
O <sub>3</sub>	ppb	30.5	96%	46.3	May-23	-	-	54.9	May-31 16:00	82	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	4.3	99%	8.6	May-31	28	0	34.3	May-31 21:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



## WYAMZ Meadow Lake Station - May 2017 Summary Report



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class						
		0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6	
Wind Speed	m/s	0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6	
O <sub>3</sub>	ppb	0 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 40	40 ≤ C < 60	60 ≤ C < 82	C ≥ 82	
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212	
PM <sub>2.5</sub>	µg/m <sup>3</sup>	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30	

### Monthly Update

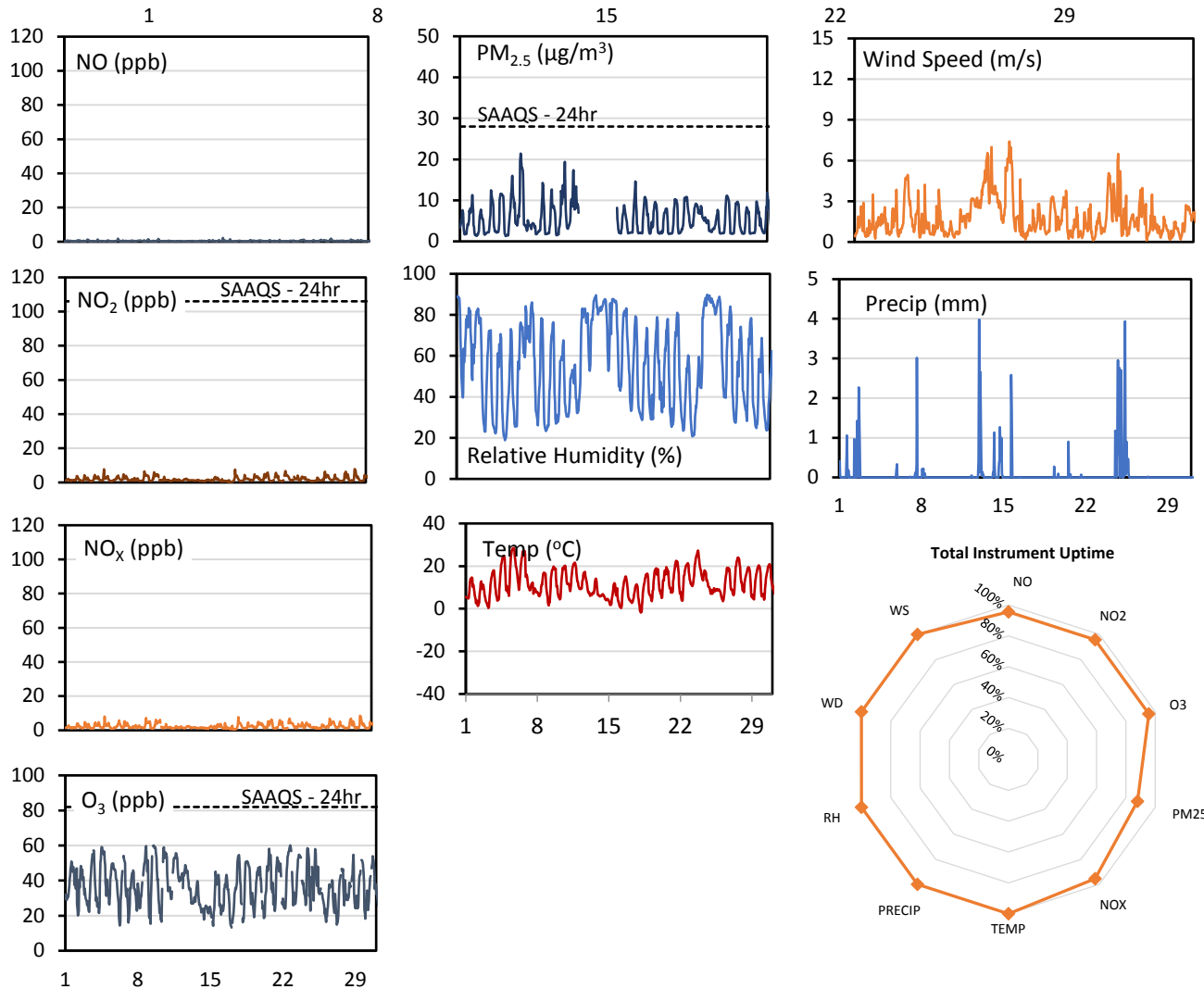
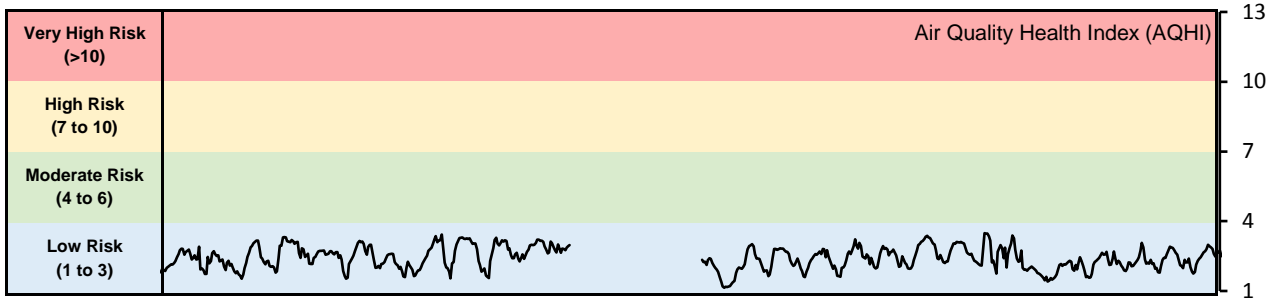
- Achieved >98% of scheduled uptime for all parameters
- Downtime of 4% results from routine daily Internal Zeroes and Spans



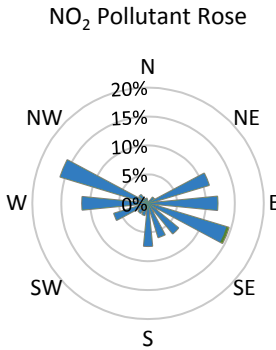
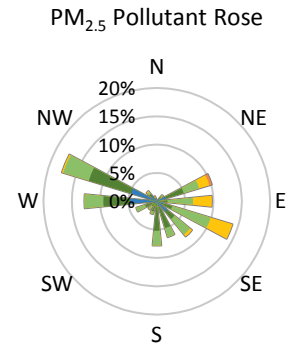
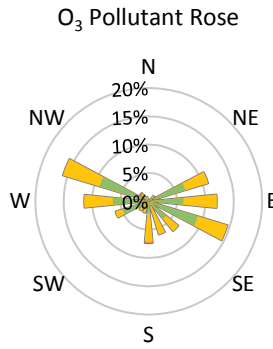
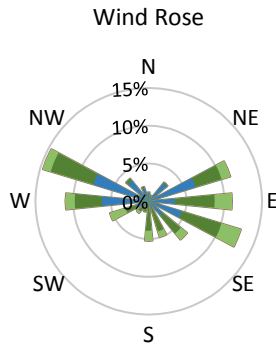
## WYAMZ Unity Station - May 2017 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc. Unit	Avg. Conc.	Total Uptime	Maximum		SAAQS Standard	Exceed Days	Maximum		SAAQS Standard	Exceed Hours
				Conc.	Time			Conc.	Time		
NO	ppb	0.4	96%	0.6	May-27	-	-	2.2	May-16 16:00	-	-
NO <sub>2</sub>	ppb	2.0	96%	3.0	May-29	106	0	7.8	May-29 21:00	159	0
NO <sub>x</sub>	ppb	2.4	96%	3.5	May-29	-	-	8.5	May-29 21:00	-	-
O <sub>3</sub>	ppb	37.1	96%	43.9	May-11	-	-	60.1	May-22 17:00	82	0
PM <sub>2.5</sub>	µg/m <sup>3</sup>	5.6	88%	11.1	May-12	28	0	21.4	May-06 22:00	-	-

SAAQS: Saskatchewan Ambient Air Quality Standards



## WYAMZ Unity Station - May 2017 Summary Report



Parameters	Unit	Color Code for Wind Speed and Pollution Concentration Class						
		0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6	
Wind Speed	m/s	0.3 ≤ WS < 1.4	1.4 ≤ WS < 3.1	3.1 ≤ WS < 7.8	7.8 ≤ WS < 10.8	10.8 ≤ WS < 13.6	WS ≥ 13.6	
O <sub>3</sub>	ppb	0 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 40	40 ≤ C < 60	60 ≤ C < 82	C ≥ 82	
NO <sub>2</sub>	ppb	0 ≤ C < 5	5 ≤ C < 15	15 ≤ C < 30	30 ≤ C < 100	100 ≤ C < 212	C ≥ 212	
PM <sub>2.5</sub>	µg/m <sup>3</sup>	0 ≤ C < 2	2 ≤ C < 4	4 ≤ C < 10	10 ≤ C < 20	20 ≤ C < 30	C ≥ 30	

### Monthly Update

- Achieved >99% of scheduled uptime for all parameters except PM<sub>2.5</sub> (88%)
- Downtime of 4% results from routine daily Internal Zeroes and Spans
- Particulate downtime due to instrument issues